

rotating the transport arm about an axis of rotation at a shoulder of the transport arm to rotate the wrist about the axis of rotation; and

moving the transport arm to radially displace the wrist of the transport arm relative to the axis of rotation at the shoulder of the transport arm, wherein the step of moving the transport arm rotates the end effector about the wrist to rotate the substrate about the axis of rotation at the shoulder of the transport arm in concert with rotation of the wrist about the axis of rotation at the shoulder of the transport arm,

wherein the movement and rotation of the transport arm result in the substrate on the end effector being displaced from an initial position to a final position along a first path through a substrate transport passage of the substrate holding area, and wherein the end effector is returned to the initial position along a second path through the substrate transport passage, the second path being different than the first path.

26. (Amended) A method [as in Claim 1] for transporting a substrate into and out of a substrate holding area on a substrate processing apparatus comprising the steps of:

providing the substrate on an end effector of a transport arm, the end effector being rotatably mounted to a wrist of the transport arm;